



Environmental Resources, LLC

P.O. Box 5305, Bozeman, Montana 59717 Phone (406) 582-8491 Email ruwaller@gmail.com

August 27, 2020

Robert E. Herman Q-Tip Trust
c/o Wells Fargo Bank
P.O. Box 5953
Sioux Falls, SD 57117-5953
Attn: Andrew Heinrich

Subject: Corrective Action Work Plan
Herman Oil Co., Homestead, Montana
DEQ Facility ID No. 46-11342
DEQ Release No. 4615, Work Plan 33164

Dear Mr. Heinrich:

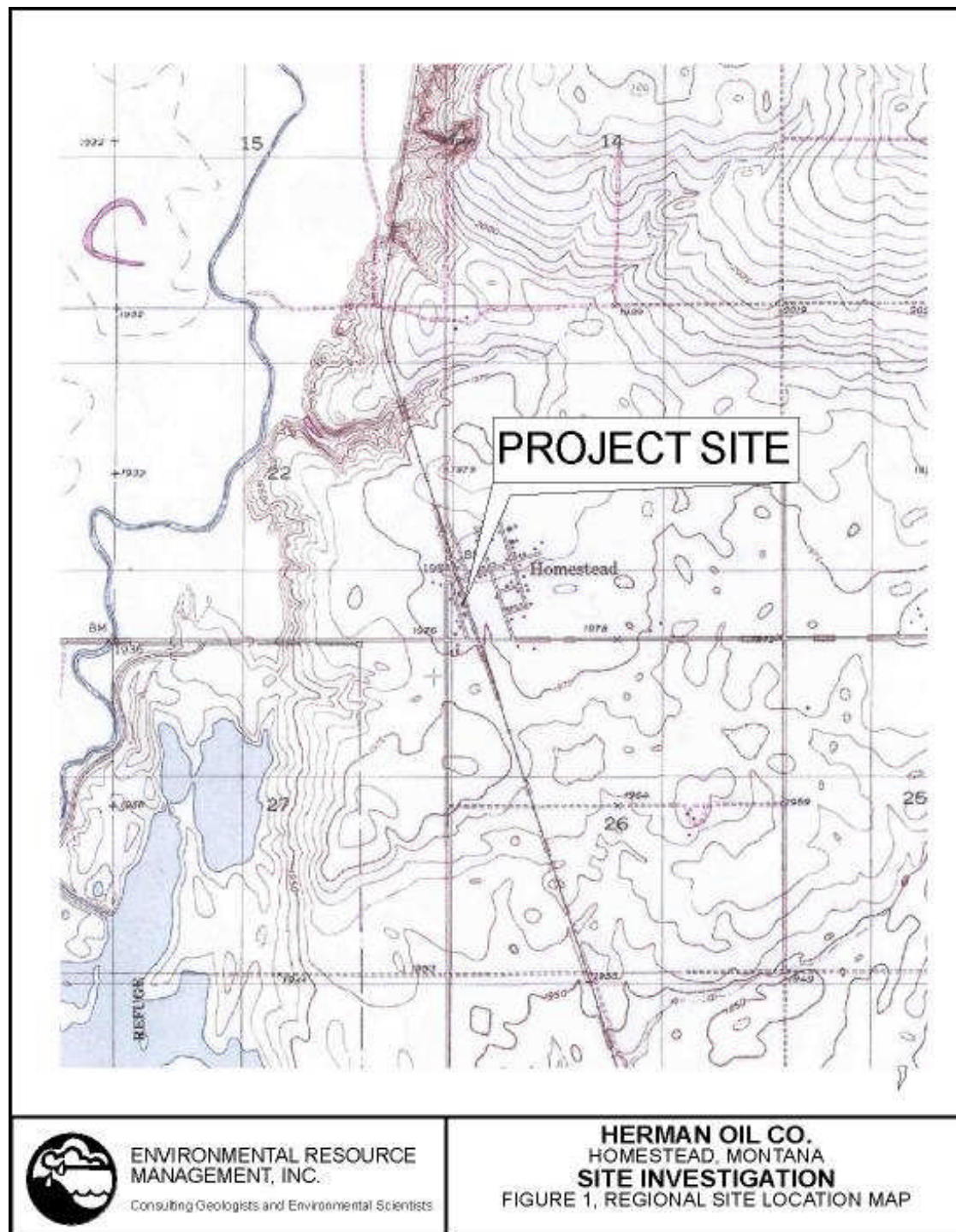
Environmental Resources, LLC is pleased to submit this Corrective Action Work Plan to outline activities associated with additional investigation and monitoring of subsurface petroleum contamination at the above referenced petroleum release site. This additional work was requested by DEQ in a letter dated August 13, 2020.

Site Location

The Herman Oil petroleum release site is located in Homestead, Montana as shown on Figure 1. The project site is situated in the southwest quarter of the southwest quarter of Section 23, Township 31 North, Range 55 East, MPM. The site occupies a commercial property along the west side of the BNSF railroad and is bordered to the north by a residential property, to the south by a small corral and pasture and to the west by agricultural land.

Site Geology

Subsurface geology at the project site is characterized by glacial till consisting of silty clay and sandy clay. Groundwater is encountered at approximately 4-7 feet below ground surface at the project site and flows south-southwesterly toward Big Muddy Creek.



Scope of Work

Proposed tasks to be performed within the scope of this work plan include the following:

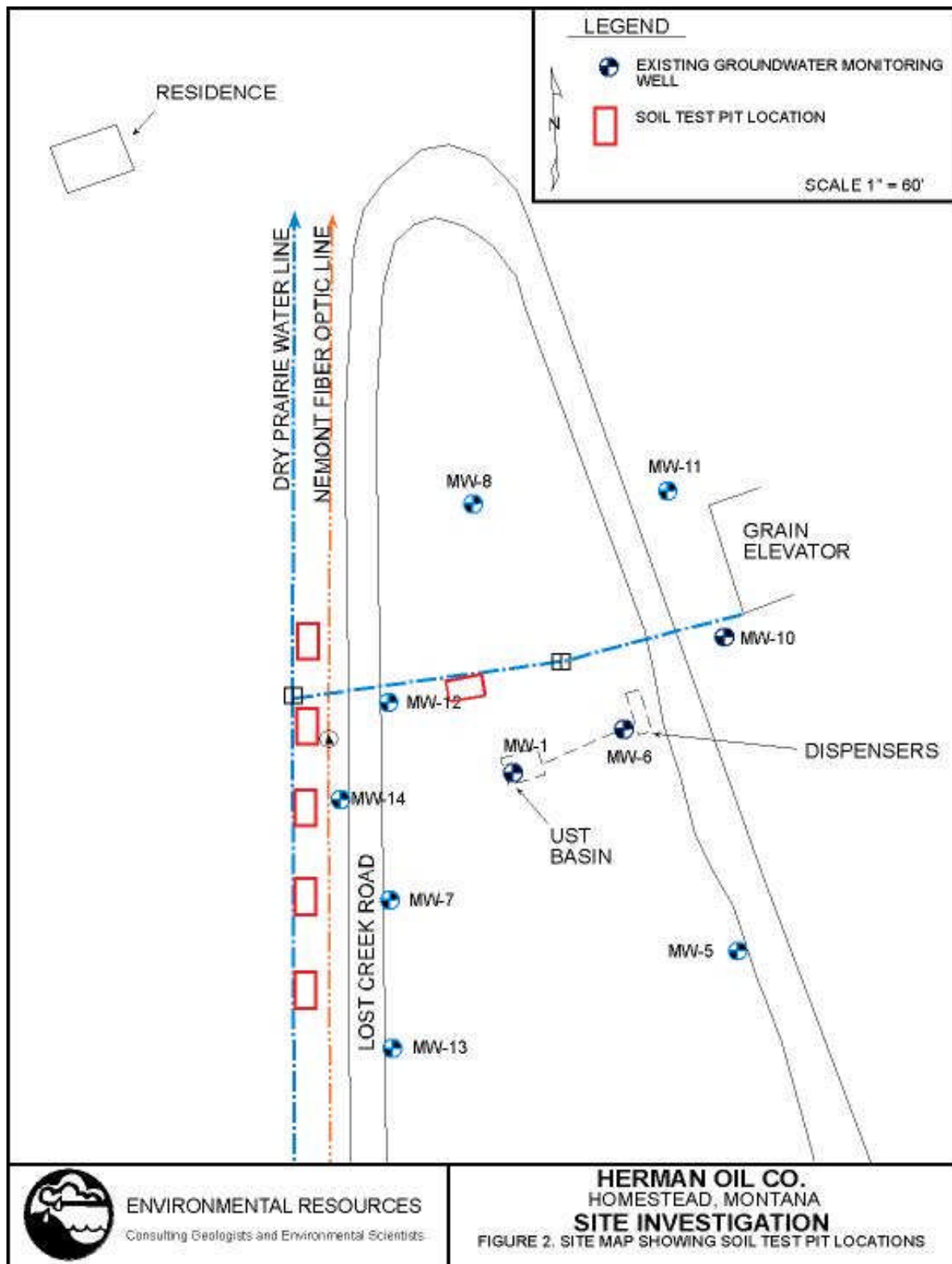
- 1) Install six soil test pits to 7-8 feet below ground surface.
- 2) Collect and analyze soil samples for Volatile Petroleum Hydrocarbons (VPH).
- 3) Conduct one groundwater monitoring event during April 2021.
- 4) Update the Release Closure Plan (RCP) and validate all laboratory data..
- 5) Prepare a Remedial Investigation Report.

These tasks are designed to gain further knowledge regarding the extent and magnitude of soil and groundwater contamination, to identify risks that the petroleum release may pose to human and environmental receptors and to mitigate the identified petroleum release.

All modifications to this work plan will be discussed with and approved by the DEQ project manager prior to implementation.

Soil Test Pit Installation

Six soil test pits will be installed at the locations shown on Figure 2 to investigate soil conditions around the Dry Prairie water line. Soil test pits will be installed to approximately 7-8 feet below ground surface such that the test pits expose the water line. Each test pit will be sampled continuously and soils will be screened for volatile petroleum hydrocarbons using a Photovac 2020 photoionization detector. One soil sample will be collected from soil in contact with the water line and analyzed for VPH at Alpine Analytical in Helena, Montana.



Data Collection

Prior to sample collection, data will be collected from all of the site groundwater monitoring wells and recorded in a field notebook. All of the well covers will be opened and the locking compression caps will be removed upon arrival at the project site. The wells will be allowed to equilibrate to the atmosphere for at least 30 minutes prior to measuring static water levels. Following the equilibration period, a thoroughly decontaminated electronic water level indicator will be used to measure the static water level in each well casing. The water level indicator tip will be scrubbed in an Alconox or similar wash solution and triple rinsed with de-ionized water prior to and following each measurement. All of the depth to water measurements will be collected from a reference point used to determine the casing elevation for each well.

Groundwater Sample Collection and Analysis

Groundwater samples will be collected during April 2021 from groundwater monitoring wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13 and MW-14. Following collection of all of the static water level measurements, groundwater sample purging will commence using low flow sampling methods. Purge water from each monitoring well will be constantly monitored for oxidation-reduction potential (ORP), pH, conductivity, temperature and dissolved oxygen content using a YSI field meter. Turbidity will also be monitored during well purging. Indicator parameter values will be recorded on field data collection sheets. Groundwater sample collection will begin when the all of the indicator parameter values stabilize.

Each groundwater sample will be decanted into appropriate laboratory provided sample containers. Groundwater samples will be placed on ice while awaiting shipment to the analytical laboratory. Sample shipment will occur through Fed Ex originating from Bozeman, Montana. All of the collected groundwater samples will be analyzed for VPH.

Reporting

Reporting will include preparation of a Remedial Investigation Report. In addition, the RCP will be updated and appended to the RI report along with Data Validation Summary Forms.

Investigative Methods

Methods practiced during this investigation will follow generally accepted practices of similar consulting firms in the same geographical area. Quality Assurance/ Quality Control methods will be employed throughout all phases of this investigation to ensure meaningful and reproducible results and data.

Investigation Derived Waste

Drill cuttings, excess sample materials, drilling fluids, and water removed from a well during installation, development, and aquifer testing and all other investigation derived wastes will be disposed of according to all applicable local, state and federal laws.

Project Costs

Project costs are provided below.

COST ESTIMATE, HERMAN OIL, HOMESTEAD, MT

TASK	UNIT COST	COST
<u>Task 1-Soil Boring Installation and Sampling</u>		
Project management	4.0 hrs @ \$135/hr	\$540.00
Work plan prep, RI		1100.00
Test pit logging, Scientist I	14.0 hrs @ \$120/hr	1680.00
PID rental	2 days @ \$90/day	180.00
Mobilization, RT from Bozeman	14.5 hrs @ \$120/hr	1740.00
Mileage, 4WD	946 miles @ \$0.61/mile	577.06
Per Diem	4 days @ \$30.50/day	122.00
Laboratory analyses	6 VPH soil @ \$135 ea	810.00
Sample shipping		150.00
Backhoe services	14.0 hrs. @ \$140/hr	1960.00
Subtotal		\$8859.06
<u>Task 2-Groundwater Monitoring</u>		
Project management	2.0 hrs @ \$135/hr	\$270.00
Groundwater sample collection	10 wells @ \$200/well	2000.00
PID rental	2 days @ \$90/day	180.00
Mobilization, RT from Bozeman	14.5 hrs @ \$120/hr	1740.00
Mileage, 4WD	946 miles @ \$0.61/mile	577.06
Per Diem	3 days @ \$30.50/day	91.50
Laboratory analyses	10 VPH water @ \$135 ea	1350.00
Sample shipping		150.00
Subtotal		\$6358.56
<u>Task 3-Reporting</u>		
RI Report		\$3320.00
RCP update	3.0 hrs @ \$135/hr	405.00
Data validation forms	2.0 hrs @ \$135/hr	270.00
Subtotal		\$3995.00
ESTIMATED PROJECT TOTAL		\$19,212.62

Limitations

This work was performed in accordance with generally accepted practices of other consulting firms conducting similar studies. Environmental Resources, LLC observed that degree of care and skill generally exercised by other consultants under similar conditions. Our findings and conclusions must not be considered as scientific certainties, but as opinions based upon our professional judgment based upon the data gathered during the course of this investigation. Other than this, no warranty is implied or intended.

Submitted by
Environmental Resources, LLC

Robert H. Waller
Project Geologist

cc: DEQ-PTCS
MPTRCB

Attachments: Unit cost worksheet, Drill bids

Corrective Action Work Plan
Herman Oil, Homestead, MT
August 27, 2020
Page 8

**GROUNDWATER MONITORING AND SAMPLING
UNIT COST WORKSHEET**

Montana Department of Environmental Quality

Contractor Information

Company Name: Environmental Resources, LLC

Address: P.O. Box 5305

City, State, Zip: Bozeman, MT 59717

Phone: 406.582.8491

Cost Estimator: Bob Waller

Project Information

Site Name: Herman Oil

Facility ID # 46-11342

Address: Railroad Ave.

Release # 4615

City: Homestead



Environmental Resources, LLC

P.O. Box 5305, Bozeman, Montana 59717 Phone (406) 582-8491 rwaller@gmail.com

Monitoring Well Details

Total Number of Wells at Site 10
Number of Wells to be monitored _____
Number of Wells to be monitored/sampled 10
Well Casing Diameter (inches) 2"
Average Depth to Groundwater (ft) 7'
Average Depth of Wells (ft) 15'

Monitoring/Sampling Interval

Estimated Start Date: 11/18
Quarterly (# of events _____)
x Semi-annual (# of events 2 _____)
Annual (# of events _____)
Other (please specify) _____

Well Purging Method

Hand bailing
Peristaltic Pump
x Submersible Pump
ρ Micropurge
ρ No Purge
ρ Other (please specify) _____

Other Services

ρ Free Product Recovery
ρ Groundwater Well Survey
ρ Wellhead retrofit/reconstruction
ρ Other (please specify) _____

Task	Unit Cost	Number of Units	Total Cost
<u>Project Management</u>	\$130/hr	2	\$260.00
<u>Mobilization/Demobilization⁽¹⁾</u>			
Mobilization/Demobilization	\$2.21/mile	946	\$2090.66
<u>Field Work</u>			
Water Level Measurements ⁽²⁾ (unsampled wells only)	/well		\$
Well Monitoring/Purging/Sampling ⁽³⁾	\$182/well	18	\$3276.00
Other Service (please specify) _____			\$
Other Service (please specify) _____			\$
<u>Report Preparation⁽⁴⁾</u>			
Quarterly/Semi-annual	\$/report		\$
Annual	/report		\$
Other (please specify) _____	\$/report		\$
Subtotal Project Expense			\$5635.66

The costs below are estimates, not bids. Lodging and laboratory analysis will be paid at actual cost when documented by receipts/invoices.

<u>Per Diem</u> (specify number of individuals__1__)			
Per Diem: Motel	\$80/person per day		\$
Per Diem: Food	\$23.00/person per day	3	\$69.00
<u>Laboratory Analysis⁽⁵⁾</u>			
Volatile Petroleum Hydrocarbons (VPH)	\$135/sample	18	\$2430.00
Extractable Petroleum Hydrocarbons (EPH) EPH "screen"	\$70/sample		\$
EPH "fractions"	/sample		\$
BTEX/MTBE/Naphthalene only-method:	/sample		\$
EDB Method 8011	\$150/sample	9	\$1350.00
PTRCB sampling fee ⁽⁶⁾	\$10/sample		\$
Other (please specify) sample shipping	\$17/sample	18	\$306.00
Other (please specify) __524.2__	\$150/sample	4	\$600.00
TOTAL PROJECT EXPENSE			\$10,190.66
Estimated Project Expense per event (total project cost / # of events)			\$



P.O. Box 30622
2910 Hannon Road, Suite #6
Billings, MT 59107
Phone: 406-896-1164 or 800-359-1502
Fax: 406-896-1462

Proposal

TO: Environmental Resource Management, Inc.
ATTN: Bob Waller
P.O. Box 5305
Bozeman, MT 59717
Ph-406-539-3208-Cell

DATE: 9/27/2018

PROJECT Homestead, MT

Description:

4-2 inch wells to 15 ' with 10' of .020 screen
TERMS: and flush mount covers.

Net 30
Days

	UNITS EST. *****	UNIT PRICE	AMOUNT EST. *****
Mob/ Demob, Per Mile	660	\$3.50	\$2,310.00
Support Truck, Per Day	3	\$100.00	\$300.00
Perdiem, Per Crew Day	3	\$46.00	\$138.00
Lodging, Per Night, Estimated	2	\$200.00	\$400.00
Auger Drilling, Per Ft	45	\$18.50	\$832.50
Well Installation, Per Ft	45	\$26.75	\$1,203.75
Flush Mount Vaults with Concrete, Each	3	\$90.00	\$270.00
Stick Up Covers with Concrete, Each	0	\$150.00	\$0.00

ESTIMATED TOTAL: \$5,454.25

Notes:

- 1) Client is responsible to clear location of utilities.
- 2) Client is responsible for disposal of drill cuttings.
- 3) Client will be invoiced only the amounts used.
- 4) We assume that site is accessible by truck mount drill rig.

Proposal By: Paul Bray